

ABSTRACT

Admission to a computer network is provided by having a network device listen to a communication channel communicatively coupling two or more components of the computer network. In some cases, the network device may then transmit a connection request to a controller of the computer network within a designated time slot of the communication channel. In other cases, the connection request may be transmitted without requiring the network device to be polled. The connection request may be confirmed by transmitting the connection request from the controller to network device periodically, until a response from the first network device is received by the controller. Upon confirmation, the controller may send to the network device, a connection agreements package, which includes information regarding time slots within the communication channel to be used by the controller for transmitting information to the first network device. The connection agreement packet may further include information regarding time slots within the communication channel to be used by the network device when transmitting information to the controller. Thus, during normal communications, data from the network device destined for the controller may be transmitted in the time slots designated in the connection agreement packet. In some cases, the information sent between the network device and the controller includes packets and, in such cases, the connection agreement may include information regarding a maximum number of bytes the network device can send or expect to receive in each packet, for each type of data included in a packet.